

REMARKS

Claims 35-42 and 54-65 are pending in the present application. By this Amendment, previously presented claim 35 has been amended; previously presented claims 1 and 43-53 have been cancelled; and new claims 54-65 have been added. Applicants respectfully request reconsideration of the present claims in view of the foregoing amendments and the following remarks.

I. Formal Matters:

Restriction Requirement

Applicants note that the April 06, 2011 Restriction Requirement is final.

Information Disclosure Statement

Applicants have resubmitted along with the present response a supplemental Information Disclosure Statement (IDS) that contains a copy of each foreign reference previously submitted in Applicants' May 25, 2006 IDS. Applicants request consideration of all references submitted.

II. Prior Art Rejections:

Rejection of Previously Presented Claims 35 and 36 Under 35 U.S.C. §102(b) In View of *Mycol. Res.* Article by Hanson et al. (Hanson)

Previously presented claims 35 and 36 stand rejected under 35 U.S.C. §102(b) as being anticipated by the article "Biocontrol Efficacy and Other Characteristics of Protoplast Fusants Between *Trichoderma koningii* and *T. virens*", *Mycol. Res.*, 106 (3), pages 321-328 (March 2002) by Hanson et al. (hereinafter, "Hanson"). This rejection is respectfully traversed.

In order for the disclosure of Hanson to anticipate Applicants' claimed invention as embodied in independent claim 35, the disclosure of Hanson must disclose each and every claim feature recited in independent claim 35. See, for example, *Finnigan Corp. v. International Trade Commission*, 180 F.3d 1354, 1365, 51 USPQ2d 1001, 1009 (Fed. Cir. 1999), in which the Court stated "In order to establish anticipation, a prior art reference must disclose every feature of the claimed invention."

The disclosure of Hanson fails to disclose at least the following claim features

recited in Applicants' independent claim 35:

- (1) an antimicrobial composition;
- (2) an antimicrobial composition comprising fludioxonil and propiconazole;
- (3) an antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole; and
- (4) an antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole that provides a synergistic effect (i.e., the activity of the mixture of fludioxonil and propiconazole is greater than the activity of the individual components; see page 3, lines 10-12 of Applicants' original specification).

Applicants note that Hanson is directed to methods of using protoplast fusion to obtain fungal hybrids of *Trichoderma* species in order to find a protoplast fusant that exhibits (i) biological control and (ii) good storage properties. Hanson discloses the use of fungicides in the disclosed procedures as merely a way of finding and selecting the fusants which are **tolerant** to specific fungicides. In other words, Hanson uses fungicides as a means of identifying putative fusants since protoplasts of the G6 parent strain would not grow on 20 μgml^{-1} propiconazole and protoplasts of the Tk7 parent strain would not grow on 12 μgml^{-1} fludioxonil. Applicants submit that Hanson's disclosure is not a demonstration of antimicrobial activity, or of an antimicrobial composition, since the protoplast itself is not a fungal cell and not a fungus.

Hanson's protoplast fusants were selected for ability to grow on the selective media and apparently it was only the protoplast fusants, which would grow on the selective media which were taken forward to be cultured and assessed for their morphology. In this regard, Table 1 is only showing the media against which each isolate was selected. This means that TkG4, TkG12 and TkG18 were selected because they are **not** inhibited by fludioxonil **or** propiconazole based on a media containing both compounds. Moreover, Figure 1 in c1, c2 and c3 shows in practice that the particular fusants were not inhibited by the combination of fludioxonil and propiconazole and were able to regrow the cell walls and form fungal colonies.

Figure 1a/b merely shows that protoplasts of each of the parental strains are inhibited by the individual fungicide to which it is susceptible. Again, it appears that it was the protoplasts of the parent strains which were plated and not the fungal strains themselves (page

322, first column, final paragraph starting “Protoplasts were plated....). Since these protoplasts did not grow, it was only the fusant isolates which were able to grow on the combined media and were later subject to single spore culturing/hyphal tipping, which indicates there had been regeneration of the cell walls enabling a fungal colony to grow.

Since the only inhibition caused by the combination of fludioxonil and propiconazole was against protoplasts, there is in fact no disclosure of the combined composition acting as an antimicrobial composition, and especially acting as an antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole that provides a synergistic effect as recited in Applicants’ independent claim 35.

For at least the reasons given above, the disclosure of Hanson cannot anticipate Applicants’ claimed invention as embodied in amended independent claim 35. Since claim 36 depends from independent claim 35 and recite additional claim features, the disclosure of Hanson cannot anticipate Applicants’ claimed invention as embodied in dependent claim 36. Accordingly, Applicants respectfully request withdrawal of this rejection.

Rejection of Previously Presented Claim 37 Under 35 U.S.C. §103(a) In View Of Hanson In Combination With U.S. Patent Application Publication No. 2004/0044040 (Neubert)

Previously presented claim 37 stands rejected under 35 U.S.C. §103(a) as being unpatentable in view of Hanson and further in view of U.S. Patent Application Publication No. 2004/0044040 to Neubert et al. (hereinafter, “Neubert”). This rejection is respectfully traversed.

Claim 37 depends from independent claim 35, described above, and further recites that the antimicrobial composition of independent claim 35 further comprises an insecticide C) selected from the group consisting of: imidacloprid, thiamethoxam and fipronil.

A description of the teaching of Hanson is provided above. As discussed above, the teaching of Hanson fails to disclose, teach or suggest (1) an antimicrobial composition; (2) an antimicrobial composition comprising fludioxonil and propiconazole; (3) an antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole; and (4) an antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole that provides a synergistic effect. In addition, Hanson fails to disclose, teach or suggest an antimicrobial composition comprising an antimicrobially effective

amount of fludioxonil and propiconazole further comprising an insecticide C) selected from the group consisting of: imidacloprid, thiamethoxam and fipronil.

The teaching of Neubert is directed to fungicides comprising pyridinyl amides and imides, and their use in combination with other fungicides and insecticides.

Like the teaching of Hanson, the teaching of Neubert fails to disclose, teach or suggest an antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole further comprising an insecticide C) selected from the group consisting of: imidacloprid, thiamethoxam and fipronil.

The June 14, 2011 Office Action suggests that one skilled in the art, given the teaching of Hanson, would have been motivated to (1) seek out the teaching of Neubert, and (2) subsequently combine (i) fludioxonil and propiconazole from the SPDA plates of Hanson, and (ii) an insecticide such as fipronil or imidacloprid from the compositions of Neubert to form a resulting composition. See, for example, page 6, lines 4-15 of the June 14, 2011 Office Action.

Applicants respectfully submit that the art of record, including the teachings of Hanson and Neubert, fails to guide one skilled in the art to (1) combine select portions from the teachings of Hanson and Neubert, and (2) subsequently combine (i) fludioxonil and propiconazole from the SPDA plates of Hanson, and (ii) an insecticide such as fipronil or imidacloprid from the compositions of Neubert to form a resulting composition as suggested in the June 14, 2011 Office Action. Applicants submit that the only reason to (1) combine select portions from the teachings of Hanson and Neubert, and (2) subsequently combine (i) fludioxonil and propiconazole from the SPDA plates of Hanson, and (ii) an insecticide such as fipronil or imidacloprid from the compositions of Neubert to form a resulting composition as suggested in the June 14, 2011 Office Action has been gleaned from Applicants' own specification, not the art of record. As Examiner Foley is aware, "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention", *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). For at least this reason, Applicants respectfully submits that the rejection of claim 37 in view of the proposed combination of the teaching of Hanson with the teaching of Neubert is improper.

However, Applicants respectfully submit that even if the proposed combination of the teaching of Hanson with the teaching of Neubert is deemed proper (and Applicants submit that it is improper), the proposed combination of the teaching of Hanson with the teaching of Neubert fails to teach or suggest Applicants' antimicrobial composition comprising an antimicrobially effective amount of fludioxonil and propiconazole that provides a synergistic effect, and further comprises an insecticide selected from the group consisting of: imidacloprid, thiamethoxam and fipronil. Neither Hanson nor Neubert suggests in any way a synergistic effect resulting from the combination of fludioxonil and propiconazole alone, or including an insecticide selected from the group consisting of: imidacloprid, thiamethoxam and fipronil.

In support of this fact, Applicants enclose herewith data sheets, which were provided in the corresponding European patent application, which clearly show that the combination of fludioxonil and propiconazole has a synergistic result. As defined in Applicants' original specification (page 3, lines 12-14), synergy is defined as a greater than expected efficacy of a combination based on the efficacy of the individual compound when applied at identical rates against the particular target. Further, synergy between two compounds can allow applications rate of the fungicides to be reduced while maintaining an equally good fungicidal activity.

The attached results demonstrate that the combination of fludioxonil and propiconazole against 3 separate species of *Aspergillus* provides synergy such that the rates of application are able to be greatly reduced. Thus, with regard to *A. niger* rates of propiconazole and fludioxonil, which gave only 30% inhibition when administered individually, could be reduced by half (or more in the case of fludioxonil) when applied as a combination **and** at the same time achieve 100% inhibition (i.e., more than 3 times the efficacy of the compound applied individually). The rate of propiconazole could be even further reduced within the combined composition and efficacy rates of 90% were still achieved when the expected efficacy of the combination based on the efficacy of the individual compounds was only 30%. Similar results allowing a considerable reduction of the rates of application were shown for both *A. tenuissima* and *A. pullulans* while maintaining 90 to 100% efficacy.

For at least the reasons given above, Applicants respectfully submit that the

proposed combination of the teaching of Hanson with the teaching of Neubert fails to make obvious Applicants' claimed invention as embodied in claim 37. Accordingly, withdrawal of this rejection is respectfully requested.

III. New Claims 54-65:

New claims 54-65 are directed to compounds of the present invention. Support for new claims 54-65 may be found in at least the following locations of Applicants' original specification: page 4, lines 1-3 (claims 54, 62 and 65); page 6, lines 9-14 (claim 55); page 6, lines 14-16 (claim 56); page 6, lines 16-22, and page 16, lines 20-24 (claim 57); page 16, lines 26-33 (claim 58); page 17, lines 7-10 (claim 59); page 17, lines 10-11 (claim 60); page 3, lines 10-12, and original claim 12 (claim 61); page 14, lines 14-32 and original claim 12 (claim 63); and page 9, lines 26-31 (claim 64).

For reasons similar to those provided above, Applicants submit that new claims 54-65 are allowable over the art. Accordingly, Applicants respectfully request allowance of these claims.

IV. Conclusion:

Applicants submit that claims 35-42 and 54-65 define patentable subject matter. Accordingly, Applicants respectfully request allowance of these claims.

Should Examiner Foley believe that further action is necessary to place the application in better condition for allowance, Examiner Foley is respectfully requested to contact Applicants' representative at the telephone number listed below.

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No additional fees are believed due; however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 503025.

Respectfully submitted,
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